

### DC/DC CONVERTERS

### DUAL-IN-LINE PACKAGE; LOCAL AREA NETWORK (LAN) APPLICATIONS

#### FEATURES

- 24-Pin dip package
- internal filtering
- low output noise
- Temperature Range  
-25°C to +70°C
- SURFACE MOUNT CONSTRUCTION

#### DESCRIPTION

The LP02U Series is designed specifically for high-volume, low-cost Local Area Network applications. It provides isolated power for LAN transceiver devices. The Series operates from either 5 or 12 volts input voltage and supplies an isolated -9 volts output.

The LP02U Series is housed in an industry standard 24-pin dual-in-line (DIP) package to permit upgrading of existing systems. A 100kHz push-pull oscillator is used in the input stage, complementing the units high-

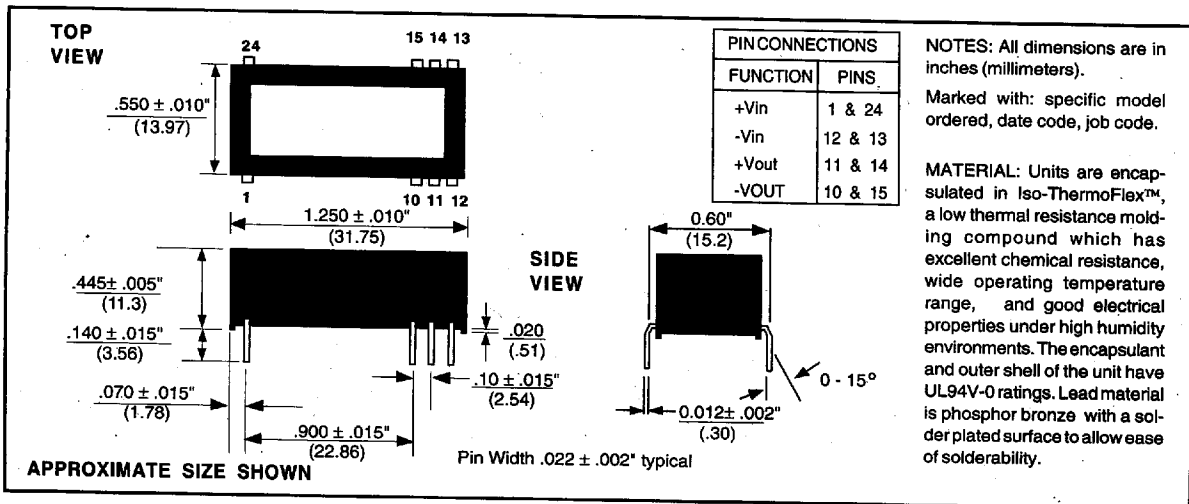
#### APPLICATIONS

- ethernet adapter cards
- cheapernet local area networks

efficiency and low-noise characteristics.

The LP02U Series offers the user low cost without sacrificing reliability. A highly automated manufacturing process is employed including machine winding of the transformer. All components are surface mounted and reflow-soldered, eliminating any hand-soldering during construction. This dramatically improves consistency, reliability, and overall cost.

#### MECHANICAL PACKAGE/PINOUT "K"



# ELECTRICAL SPECIFICATIONS

Specifications typical at  $T_A = +25^\circ\text{C}$ , nominal input voltage, rated output current unless otherwise specified.

Model	Nominal Input Voltage (VDC)	Rated Output Voltage (VDC)	Rated Output Current (mA)	Input Current		Efficiency (%)
				No Load (mA)	Rated Load (mA)	
LP02U05S09	5	9	250	50	568	80
LP02U12S09	12	9	250	30	240	77

NOTE: Other input to output voltage options may be available. Please consult factory.

## COMMON SPECIFICATIONS

Specifications typical at  $T_A = +25^\circ\text{C}$ , nominal input voltage, rated output current unless otherwise specified.

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
<b>INPUT</b> Voltage Range	LP02U05S09 LP02U12S09	4.75 11.4	5 12	5.25 12.6	VDC VDC
Voltage Rise Time	See Application Note: "Capacitive Loading Effects on Start-Up of DC/DC Converters"				
<b>ISOLATION</b> Rated Voltage Test Voltage Resistance Capacitance	60Hz, 10 Seconds	500 500	1 30		Vrms Vpk GΩ pF
<b>OUTPUT</b> Rated Power Voltage Setpoint Accuracy Ripple & Noise  Line Regulation Load Regulation	$I_{\text{LOAD}} = 200\text{mA}$ BW = DC to 10MHz BW = DC to 2MHz High Line to Low Line $25\text{mA} \leq I_{\text{LOAD}} \leq 200\text{mA}$		2.25 ±3 30 3 1.15 ±10		W % mVp-p mVrms %/ % %
<b>GENERAL</b> Switching Frequency Package Weight MTTF per MIL-HDBK-217, Rev. E * Ground Benign	Circuit Stress Method $T_A = +25^\circ\text{C}$ $T_A = +70^\circ\text{C}$		100 6 3,000 700		kHz g kHr kHr
<b>TEMPERATURE</b> Specification Operation Storage		-25 -55 -55	+25	+70 +85 +100	°C °C °C

\* For demonstrated MTTF results reference Power Convertibles' Reliability Report LP02U

## ABSOLUTE MAXIMUM RATINGS

Output Short-Circuit Duration.....	1 second
Internal Power Dissipation .....	1W
Lead Temperature (soldering, 10 seconds max).....	+300°C

## ORDERING INFORMATION

LP02U xxyz K /H

Device Family \_\_\_\_\_  
Indicates Lan Enabled 2 Watt Regulated Unit

Model Number \_\_\_\_\_  
Selected from Table of Electrical Characteristics

Where:  
xx = Input Voltage  
y = Number of Outputs (Single "S")  
zz = Output Voltage

Package Option \_\_\_\_\_  
Screening Option \_\_\_\_\_

## LOAD PERFORMANCE CURVE

